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Commonwealth Agricultural Bureaux, Farnham Royal, Bucks; Gesellschaft fur Information und Dokumentation, Frankfurt am Main; Institute of Food Technologists, Chicago; Centrum voor Landbouwpublikaties en Landbouwdocumentatie (Pudoc), Wageningen.

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H. BROOKES

ASSISTANT EDITOR

1

Metallized polyester: rebirth and rekindling.
Anon.
Food Engineering International 2 (7) 44-45 (1977) [En, de, fr, es]

Some of the properties and applications of metallized polyester films are discussed. Although not a new product, new uses are being found for it as polyester films now cost 60 cents/lb vs. $1.20/lb for cellophane. Some uses reported include coffee pouches from metallized polyester/polyethylene which have low O_2 permeation rates enabling coffee to be stored for ≤ 1 yr, packages for potato crisps that give increased shelf-life over conventional films, and a light barrier laminate made of metallized glassine/high density polyethylene for snack foods. DIH

2

Freezer concentration.
Ganiaris, N. (Struthers Patent Corp.)
United States Patent 4 036 619 (1977) [En]

Apparatus for freeze concn. of liquids, e.g. coffee, tea and orange juices employs direct and indirect contact crystallizers. IFT

3

Coffee as a low-calorie vehicle for iron-fortification.
Johnson, P. E.; Evans, G. W.
Nutrition Reports International 16 (1) 89-92 (1977) [4 ref. En] [USDA, Human Nutr. Lab., Grand Forks, North Dakota 58201, USA]

Coffee grounds were fortified with ferrous fumarate at a level of 3.28 mg/g dry grounds for tests on Fe absorption in rats. Samples fed were black coffee, and coffee with sugar, with non-dairy creamer, with milk, and with sugar + non-dairy creamer. Mean absorption of Fe was 39.0 ± 12.1%, with no differences between the various coffee samples. Ferrous fumarate mixed well with coffee grounds, and did not sift out after 3 months of opening and closing the can for removal of coffee; coffee prepared at various times had approx. the same Fe concn., and the Fe had no effect on organoleptic properties. Coffee can be fortified economically and provide a low calorie source of Fe. SP

4

Coffee substitutes are reborn.
Braxmayer, H.
Tea and Coffee Trade Journal 149 (6) 38-39 (1977) [En]

Recently introduced coffee substitutes are briefly discussed, including coffee and chicory blends; a 54% coffee, 46% wheat, molasses and bran blend; a 50% coffee, 40% garbanzo bean or duck pea, 10% carob blend; and Folgers' Flaked Coffee, which does not use any coffee substitutes but allows a 10-25% increase in the brewed coffee extracted. RM

5

[Analysis of carboxylic acid-5-hydroxytryptamides in coffee.] Analytik von Carbonsäurehydroxytryptamiden in Kaffee.
Hubert, P.; Kwasny, H.; Werkhoff, P.; Turner, U.
Zeitschrift für Analytische Chemie 285 (3/4) 242-250 (1977) [13 ref. De, en] [HAG AG, Hagstrasse, D-2800 Bremen, Federal Republic of Germany]

The carboxylic acid 5-hydroxytryptamides (CHT) found in the wax surface layer of green coffee beans [see Zeitschrift für Lebensmittel Untersuchung und Forschung (1968) 138, 75] are indicator compounds for detecting treatment of the green beans to produce an easily digestible roast coffee beverage with full caffeine content. The analytical methods are discussed and an improved method applicable to green and roasted coffee is presented. The standard compounds necessary for calibration were isolated from coffee wax and the calibration curve was confirmed with a mixture of synthetic CHT-homologues. The MS data of these CHT and their benzyl ethers are discussed. The analytical results were about 40% lower when applied to low-irritant coffee, thus the usual limit for processed coffees decreases from 400 to 250 ppm CHT. The errors of the analytical method (repeatability and reproducibility) are presented. AS

6

[Method of obtaining a coffee substitute from cereals and chicory.]
Dmitrieva, E. T.; Gulyaev, V. N.; Nakhmedov, F. G.; Safronov, M. I.; Tambiev, K. Sh.; Timokhina, L. M. **(Union of Soviet Socialist Republics,** Vsesoyuznyi Nauchno-issledovatel'skii Institut Konservnoi i Ovoshchesushil'noi Promyshlennosti)
USSR Patent 563 152 (1977) [Ru]

The chicory and cereal grain are ground separately, and the chicory is roasted and extracted. The ground grain is immersed in water and treated with live steam, held at 70° C, cooled, and then mixed with malt extract and an aqueous enzyme solution. The mass is heated and filtered, and the filtrate is mixed with the chicory extract, preferably in a 7:3 ratio. W&Co

7

New tool for the coffee industry: the continuous pressure roaster.
Lee, S.
Tea and Coffee Trade Journal 149 (7) 6, 10 (1977) [En]

The operation and advantages of continuous coffee roasting at high pressure, 100-140 lb/in^2 gauge, are briefly discussed. High pressure roasting can produce more intense flavour and colour, reduce off-flavours, increase acidity, soluble solids and yields, prevent air pollution and achieve considerable energy and capital investment savings. The key to the success of the process is a lock valve, US Patent 3 825 221. RM

8

[Examination of Arabusta raw coffee.] Über Untersuchungen an Arabusta-Rohkaffees.
Wurziger, J.; Capot, J.; Vincent, J. C.
Kaffee und Tee Markt **27** (12) 3-8 (1977) [3 ref. De] [Chem. & Lebensmitteluntersuchungsanstalt im Hygienischen Inst., Hamburg, Federal Republic of Germany]

Freshly harvested raw Arabusta coffees (Arabica × Robusta crosses) from various regions of the Ivory Coast were compared by their kahweol contents (determined by extinction at 630 nm of petroleum ether extracts treated with KI and glacial acetic acid). Tabulated results showed wide variations between the different crosses, ranging from Robusta-like to Arabica-like: 3.0% had extinction values <0.020; 15.6%, 0.021-0.040; 25.0%, 0.041-0.060; and 56.3%, >0.061. RM

9

[Procedure for protection of foods.]
Societe des Produits Nestle SA
Swiss Patent 586 023 (1977) [Fr]

A material for protection of foods consists of a bacteriostatic agent obtained by acid/base extraction from green coffee, and used at concn. of ≤1.5 mg/g DM. The green beans are decaffeinated by extraction with methylene chloride, and the residue is treated with NaOH solution at pH 10-12. After acidification to pH 1-2, the mixture is extracted with ether. The protective agent is obtained from the ether extract. W&Co

10

[Variations in the oxidation value of natural coffee during storage.]
Brer, J.
Prace Instytutow i Laboratoriow Badawczych Przemyslu Spozywczego **26** (3) 329-336 (1976) [22 ref. Pl, ru, en, de] [Inst. Przemyslu Fermentacyjnego, Warsaw, Poland]

Variations in coffee during 16 wk storage were studied by determining the oxidation value as a step in the establishment of the loss of aroma. Detn. involved use of chromosulphuric acid to oxidize the volatile substances separated from the coffee sample by steam distillation. Specially modified Erlenmeyer flasks were used; they were closed with the sample container inside, containing 200 ml coffee which are then moisturized. The mean oxidation value rose from 3.3 to 6.5 in 'Wyborowa' (Choice) coffee, and from 3.6 to 6.8 in 'Super' coffee. The highest value was obtained with samples packaged in Al/diophan composite or in paper/polyethylene composite. STI

11

[Evaluation of raw coffee type and processing method, on the basis of the diterpenes in coffee oils.]
Wurziger, J.
Fette, Seifen, Anstrichmittel **79** (8) 334-339 (1977) [11 ref. De, en] [Chem. & Lebensmitteluntersuchungsanstalt im Hygienischen Inst., Hamburg, Federal Republic of Germany]

The distinction of Arabica from Robusta coffee by the diterpene (kahweol) content is outlined. The kahweol present in Arabica (but not Robusta) coffee oil is responsible for the extinction of petroleum ether extracts at 290 nm, and for blue colour formation (extinction at 630 nm) after treatment with KI and glacial acetic acid. This reaction is also observed in Arabusta (Arabica × Robusta) crosses, but is reduced by long storage and by heat treatment during coffee processing (steaming, decaffeination, 5-hydroxytryptamine reduction). The kahweol colour reaction can therefore serve as an index of processing, especially steaming, of raw coffee in addition to 5-hydroxytryptamine detn. and the alkali colour number. The kahweol reaction may also be applied to roast coffee or the residue from coffee extract production. RM

12

Grading for green coffee.
India, Indian Standards Institute
Indian Standard **IS:3581-1974**, 7pp. (1974) [En] [Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110001, India] Price Rs3.00

This standard, first revision of the 1966 standard, prescribes requirements for various grades (on the basis of size and shape before packing) of 2 main types of green coffee, Coffea arabica and C. caenophora (subvar. C. robusta Lyn.), of 4 classes (Arabica, Plantation; Arabica, Cherry; Robusta, Parchment; and Robusta, Cherry). Max. moisture contents (method is prescribed) are given for 3 types: washed coffee 10; Arabica, Cherry, 11; and Robusta, Cherry, 11.5%. AL

13

Food in tubes successful in Europe; new effort launched in the U.S.
Anon.
Food Engineering International **2** (9) 27, 29 (1977) [En]

Several firms in the USA are said to be interested in packaging foods in metal tubes, which are popular in Europe. Foods mentioned include a coffee and cream product made by Nestle Co., Australia, an anchovy paste and peanut butter. Good shelf lives for products in tubes are reported; tests have been made with peanut butter for ≤90-day periods. The tubes are made of Al, lined appropriately for the food product (e.g. vinyl, epoxy or phenolic lining), printed with 4 colour graphics and supplied to the packer. DIH

14

Coffee. [Book]
Roden, C.
136pp. ISBN 0-571-10932-2 (1977) [En] 3 queen Square, London WC1, UK; Faber & Faber Ltd. Price £4.50

This book deals with all aspects of coffee, including its history, coffee houses, poison or

elixir?, custom and ritual, trade, the coffee tree, preparing beans, choosing coffee, market classification, a guide to the choice quality beans, buying and storing, roasting, grinding, additives and substitutes, instant coffee, brewing coffee, ways of serving coffee, and recipes for iced coffee, coffee ices, coffee desserts and cakes. AL

15

Coffee enzymes and coffee quality. [Lecture]
Amorim, H. V.; Amorim, V. L.
ACS Symposium Series 47, 27-56 (1977) [82 ref. En] [Univ. of Sao Paulo, 13400 Piraciciba, Sao Paulo, Brazil]

Activity of enzymes (polyphenol oxidase in particular) in different coffee spp. and var., and after harvest, transport and storage, the possible role of enzymes in coffee fermentation, drying and storage, and enzyme activities and protein solubility during the roasting process are reviewed, and the possibility that enzymic activity affects coffee quality is discussed. [See FSTA (1978) 10 2G59.] AL

16

[Trials on synchronizing the harvest of fruits of the coffee tree Canephora with the aid of ethephon.]
Snoeck, J.
Cafe-Cacao-The 21 (3) 163-178 (1977) [11 ref. Fr, en, es, de] [Inst. Francais du Cafe & du Cacao, BP 1827, Abidjan, Ivory Coast]

Ethephon spraying was used at 2 locations during 3 seasons in attemps to synchronize the harvest of coffee beans. Commercial ethephon (480 g/l.) was sprayed at 0.5 l./tree near complete maturity of the berries; this resulted in reddening of the pericarp with only slight effects on the chemical composition of the beans and no effect on sensory quality and granulometric analyses. Complete harvest of ripe and unripe fruits from untreated trees was more profitable, but for acceptable cup quality the % of green coffee must not exceed 30%. RM

17

[Binding of aroma volatiles on coffee powder. I. Binding of small quantities.] Zur Bindung flüchtiger Aromastoffe an Pulverkaffee. I. Bindung kleiner Mengen.
Maier, H. G.; Krause, H. G.
Kaffee und Tee Markt 27 (13) 3-6 (1977) [17 ref. De] [Inst. für Lebensmittelchemie, Tech. Univ. Braunschweig, Federal Republic of Germany]

The reversible binding (adsorption) of 1 mmol/kg each of acetone, methylacetate, ethanol, diacetyl, pyridine and acetic acid on 8 technical coffee extracts (var. Angola Robusta and Colombia Arabica), roast coffee, coffee oil, aqueous extract and extract residue (laboratory prepared, from Robusta and Arabica) was studied by GLC. Degree of binding of most aroma compounds by the listed products are shown graphically and in tables. Coffee oil adsorbed about 10 times as much as roast coffee, coffee extract about 0.1 times as much as roast coffee. Extract residue obtained at 100°C adsorbed only slightly less than roast coffee, suggesting that industrial extraction was attended by solubilization of some compounds which enhanced adsorption of volatiles: the binding of aroma compounds was increased with rising extract yield. An extract produced at 180°C from the residue adsorbed better than extract produced at 110°C from roast coffee. The linear relation between the distribution coeff. and b.p. of the aroma compounds allowed prediction of the distribution coeff. and hence the relative binding of homologous aroma compounds. RM

18

Coffee storage research. Bulk storage in an autocool silo.
Muriithi, G. K.
Kenya Coffee 42 (496) 245-252 (1977) [3 ref. En]

An autocool silo with a ventilation system using a humidistat and a differential thermostat (to select air of 50-70% RH) was tested over 18 months. The following trends were observed (shown graphically): at any one date coffee temp. varied by 1.5-4°C; temp. fluctuated between 16° and 19°C during the cold season, 20° and 23°C during the hot-dry season, and was about 2°C higher at the top than in the middle and bottom of the silo; the number of h of fan operation varied considerably and was not related to the coffee temp.; moisture contents varied from 10.1 to 10.3%, vs. 10.0-10.5% in control bags adjacent to the silo; and mean coffee liquor quality fell from class 4 to 5! (vs. 4 to 5 in control), with slight woodiness detected after 8 months storage. RM

19

Flavoring agent.
Winter, M.; Gautschi, F.; Flament, I.; Stoll, M. (Firmenich & Cie)
United States Patent 4 018 910 (1977) [En]

A compound in the form of a pyridine ring, having two side chains, one including R, as hydrogen, methyl or phenyl and the other R_2 as hydrogen, methyl or acetyl, is used to modify the flavour of coffee materials. ELC

20

[Development of a table for determination of the weight gain of green coffee and other grains, attributable to absorption of moisture from the environment.]
Jordao, B. A.; Freitas Leitao, M. F. de
Boletim do Instituto de Tecnologia de Alimentos, Brazil No. 51, 45-71 (1977) [4 ref. Pt, en] [Inst. de Tecnologia de Alimentos, Campinas, Sao Paolo, Brazil]

Changes in various characteristics of green coffee beans held for ⩽120 days at 25°C at RH of 65, 70, 75 or 80% were studied. Tables of data are given for moisture content, real and apparent specific wt., vol., wt. and yeast + mould counts of the stored

coffee samples. In general coffee beans exposed to high RH swell, and decrease in sp. gr. Wt. increases temporarily, then decreases as a result of respiration. Mould + yeast counts increase at RH values ⩾70%. Tables are given for calculation % wt. changes of stored grain, if initial and final moisture contents are known. AJDW

21

Proceedings of the Nutrition Society. Abstracts of communications. [Conference proceedings]
United Kingdom, Nutrition Society
Proceedings of the Nutrition Society 36 (1) 1A-27A (1977) [many ref. En]

Extended summaries are published of papers presented at the 297th meeting of the Nutrition Society held on 1 Oct., 1976, at Queen Elizabeth College, London. The papers included: Determination of vitamin D in butter and ghee by chick bioassay, by P. Gordon, K. Sharma & T. G. Taylor (p. 24A); Sterols in British shellfish, by A. Schulze & A. S. Truswell (p. 25A, 4 ref.); and Niacin in instant coffee, by P. Okungbowa, M. C. F. Ma & A. S. Truswell (p. 26A, 5 ref.). DIH

22

Decaffeinated coffee of improved flavor.
Lando, F.; Teitelbaum, C. L. (General Foods Corp.)
United States Patent 4 044 162 (1977) [En]

Decaffeinated coffee of improved flavour is produced by extracting green coffee with an extraction medium containing sufficient sucrose to result in a decaffeinated green coffee with at least 6 wt. % of sucrose. IFT

23

Method for aromatizing soluble coffee.
Jolly, M. D.; Nacci, A. T.; Ceglie, G. J. de; Vitti, R. A. (General Foods Corp.)
United States Patent 4 044 167 (1977) [En]

Coffee grinder gas aroma and water dispersible carbohydrate solids are combined with a liquid glyceride and cooled to a solid state. The resulting composition is comminuted and blended with soluble coffee powder, after which the mixture is permitted to warm to room temp. to bring about liquefaction of the aromatized fraction. IFT

24

Determination of dimethylpolysiloxane in instant coffee.
Kacprzak, J. L.
Journal of the Association of Official Analytical Chemists 60 (5) 1142-1144 (1977) [5 ref, En]
[Health Commission of NSW, PO Box 162, Lidcombe, NSW 2141, Australia]

A method is described for determining dimethylpolysiloxane in instant coffee. The siloxane is extracted with chloroform in a Soxhlet apparatus and then converted to silica which is estimated by a heteropoly blue method. The method is interference-free, and 5 μg dimethylpolysiloxane can be easily detected. Recoveries from samples containing 5, 10, 15 and 20 p.p.m. added dimethylpolysiloxane were in the range 78-99%. AS

25

Coffee dehydration.
Gelder, A. van
British Patent 1 475 391 (1977) [En]

Vacuum dehydration of coffee extracts involves electrical heating in a vacuum of 100-1000 μm Hg. IFT

26

[Effects of adulteration on the quality of coffee.]
Miya, E. E.; Shirose, I.
Boletim do Instituto de Tecnologia de Alimentos, Brazil No. 49, 123-149 (1977) [7 ref. Pt, en]
[Inst. de Tecnologia de Alimentos, Campinas, Sao Paolo, Brazil]

Studies on effects of adulteration with (i) coffee berry skins (ii) coffee berry parchment and (iii) cellulosic material (twigs, etc.) on the organoleptic properties (aroma, acidity, overall quality) of coffee infusion are described. Coffee prepared from samples containing ⩽60% extraneous matter was compared with that prepared from non-adulterated samples. Tables of results are given. Adulteration with ⩾2.5% extraneous matter could be detected. Serious impairment of organoleptic properties was observed at concn. of 20-40% for (i), 50% for (ii) and 30-40% for (iii), depending on coffee type. Changes in organoleptic properties with increasing concn. of (i), (ii) or (iii) were approx. linear. AJDW

27

[Use of heterocyclic sulphur compounds for improving flavour or perfume.]
Firmenich SA
Swiss Patent 588 822 (1977) [Fr]

Flavouring or aromatising compounds for fruit and vegetable juices or coffee-based beverages are based on heterocyclic S compounds (structural formula given) containing R^1 to R^8 groups (R being H or a linear or branched alkyl or alkenyl radical) substituted at 4 points and O and S being at the 1 and 3 positions. The preferred compound is 2-methyl-4-n-propyl-1,3-oxathiane. Organoleptic properties are improved if compositions are diluted in a suitable solvent (e.g. triacetin or dipropylene glycol) in a concn. of 0.01-100 p.p.m. W&Co

28

[Food concentrates.] Pishchevye kontsentraty. [Book]
Bachurskaya, L. D.; Gulyaev, V. N.
335pp. (1976) [57 ref. Ru] Moscow, USSR; Pishchevaya Promyshlennost' Price 1.29r

Theoretical principles of food concentrates manufacture are presented. Raw materials used are

discussed, as well as the machinery used. Methods for the production of individual kinds of food concentrates are presented as well as methods for calculation of the consumption of raw materials. Individual chapters deal with: dehydration by means of heat and freeze-drying; convenience foods production, e.g. dehydrated meat, pea meal, dried fruit products, protein hydrolysates; conc. whole dishes, including gravies, sweets, flour products; dietetic and baby foods; dietetic products from oats, maize products, wheat products and products from other cereals; and coffee and coffee substitutes. STI

29

[Cardboard container with removable lid.]
Berthelsen, P. (Pakko-Emballage A/S)
Danish Patent Application 135 226 (1977) [Da]

A rectangular cardboard container which may be closed tightly by the consumer during storage to protect the flavour of ground coffee and similar products has a trough-shaped lid which fits tightly in the container opening. ⩾2 opposite walls of the container are provided with flaps of such a length that their outer ends are jammed between the respective wall of the lid and a central, rectangular projection in the base of the lid when they are folded inwards over the edge of the lid and along its walls. W&Co

30

Soluble coffee of improved stability and flavor.
Howland, R. F.; Mansky, M. H.; Richards, W. J. (General Foods Corp.)
United States Patent 4 045 586 (1977) [En]

Aromatics which have been removed from an aqueous coffee extract are condensed, mixed with a carbohydrate fixative and combined with a dried powdered coffee product. IFT

31

Effects of some inhibitors on the nitrosation of drugs in human gastric juice. [Lecture]
Ziebarth, D.; Scheunig, G.
IARC Scientific Publications No. 14, 279-290 (1976) [15 ref. En] [Academy of Sci. of the GDR, Central Inst. for Cancer Res., Berlin (GDR)]

Of the inhibitory substances tested, ascorbic acid proved the most effective for pharmacological use. Possible nitrosation-inhibiting effects of some beverages often ingested with food were also examined. The reaction of sodium nitrite (2 µmol) with 20 ml of 19 different beverages in 30 ml gastric juice at pH 2.0 and 37° C was determined; decrease in nitrite concn. with time (1, 5, 10, 15 and 20 min) was shown to fluctuate widely. Experiments with instant coffee, red wine and European beer showed that an increase in pH was always associated with a decrease in inhibitory action. Of several beverages examined for their influence on the nitrosation of piperazine at pH 2.0 only instant coffee had a pronounced inhibitory effect. [See FSTA (1978) 10 5C147.] AL

32

[The role of natural gas in the development of new processes in the agricultural and food industries.]
Strehl, M.
Industries Alimentaires et Agricoles 94 (9/10) 923-935 (1977) [Fr, de, en]

The prospects for using natural gas are reviewed and its applications in the food industry are illustrated, e.g. for direct grain drying, spray drying, burning of polluting gases, flame sterilization, malt kilning, coffee roasting and bakery products. The absence of SO_2 from natural gas allows heat recovery by condensation and hence energy savings. RM

33

[Package, particularly a pouch made from plastics sheet.] Verpackung, insbesondere ein aus Kunststoffolie bestehender Beutel.
Hirmann, G.
Swiss Patent 582 101 (1976) [De]

A package is provided with ⩾2 chambers separated from each other by a heavy seam. The chambers are filled with different ingredients which can be mixed by removal or breakage of the seam so that the mixed product can be poured out. The food application consists in keeping separate ingredients which require to be mixed only just before use, e.g. a coffee powder or soup powder separated from a compartment of water which can be heated before use, or a vitamin preparation to be mixed in a container of drinking water. A filter may be provided at the pour-off point. W&Co

34

[Analysis of decaffeinated coffee.]
Italy, Ministero della Sanita
Bollettino dei Chimici dei Laboratori Provinciali 3 (9) 286-306 (1977) [It]

The following methods are described: Levine's method for detn. of caffeine content in decaffeinated green coffee, roast coffee (beans and ground), and coffee extract using ammonia extraction, column chromatographic clean-up and UV spectrophotometric detn.; method for detn. of chloride extraction solvents by pyrolysis, and potentiometric detn. by specific electrode; GLC method for detection and detn. of chloride solvent residues; GLC method for detn. of ethyl acetate in decaffeinated green coffee; method for detn. of moisture content (as wt. loss at drying) in raw decaffeinated and roast decaffeinated coffee (beans or ground); and method for detn. of moisture content (as wt. loss at drying) for solid extract of decaffeinated coffee. RM

35

Industry meets coffee price challenge.
Anon.
Food Product Development 11 (5) 38, 42, 47 (1977) [En]

Elevated coffee prices have led to the development of coffee substitutes and extenders.

Coffee alternatives considered are: Versa-Rich Corfee - corn-based extender or replacement; Granger's cereal based coffee extender; Buisman's Coffee Extender - caramel and calcium phosphate, allowing 50% extension of roasted or instant coffee; Coffee Stretch (J. R. Kennedy Co.) - extender containing coffee, artificial coffee flavouring and caramel coloring; Bev-ex-21 (Griffith Laboratories) - coffee extender, consisting of roasted malted cereal, condensed soy solubles and hydrolysed vegetable protein; Cup-O-Java (Lingle Brothers Coffee Inc.) - incorporates garbanzo beans into an extended coffee product; Mellow Roast (General Foods Corporation) - a preblended, extended coffee containing 60% coffee and 40% roasted wheat product; Sunrise (Nestle Co.) -an instant coffee extended with chicory; and Folger's Flaked Coffee - designed for automatic drip coffee makers. VJG

36

Effects of delayed pulping on the development of stinkers and the final quality of coffee.
Kamau, I. N.
Kenya Coffee 42 (497/498) 295-298 (1977) [9 ref. En] [Coffee Res. Sta., Ruirn, Kenya]

The production of over-fermented coffee beans or 'stinkers' was investigated. Of 190 samples with pulping delayed 6 or 7 days, 61 had 'few to very many' stinkers, vs. 17 samples with 'occasional to few' stinkers out of 190 samples pulped immediately after picking; all the 17 affected samples were dried in layers >3 in thick. In all cases coffee with delayed pulping was graded 0.5-5.0 standards lower than immediately pulped coffee. Immediate pulping (within 24 h of picking) and drying in 1 in (2.5 cm) thick layers are recommended. RM

37

A 2-year feeding study of instant coffees in rats. II. Incidence and types of neoplasms.
Würzner, H.-P.; Lindström, E.; Vuataz, L.
Food and Cosmetics Toxicology 15 (4) 289-296 (1977) [28 ref. En] [Nestle Products Tech. Assistance Co. Ltd., Biol. Lab., CH-1350 Orbe, Switzerland]

Regular and decaffeinated instant coffees were incorporated at the max. tolerated level of 6% in a standard commercial diet and fed ad lib. to male and female rats for 2 yr. The average daily intake of coffee, not considering the first 4 wk, was 2.9 g/kg for males and 3.5 g/kg for females, corresponding to about 80 cups for a 70-kg man and 70 cups for a 50-kg woman. With the exception of caffeine, the other technological variables, such as freeze- and spray-drying, decaffeination and extraction rates, did not influence the incidence and types of neoplasms in a significant manner. With 3 of the treatments involving high levels of caffeine, the incidence of neoplasms was significantly lowered. In all treatment groups, the total number of neoplasms was either similar to or lower than the total in the control group. [See FSTA (1977) 9 8H1455 for part I.] AS

38

[Roasting of coffee in a fluidized gas bed.]
Arjona, J.-L.; Rios, G.; Gibert, H.; Vincent, J.-C.; Roche, G.
Cafe-Cacao-The 21 (4) 263-272 (1977) [9 ref. Fr, de, en, es] [Univ. des Sci. & Tech. du Languedoc, Place E. Bataillon, 34060 Montpelier Cedex, France]

After a critical analysis of existing coffee roasting methods, the authors describe, with the aid of diagrams, a pilot plant for fluidized gas bed roasting and results of trials with 3 Robusta and 2 Arabica coffee samples. Tabulated results show that with an air inlet temp. of 220-260° C, roasting time was 1 min 30 s-3 min 30 s, wt. loss was 12-17% (vs. 18-20% by conventional methods) and the mean energy required was 95 kcal/kg green coffee. Roasting time was dependent mainly on the temp. (optimum 220-260° C), and to a much smaller degree on air speed (optimum 48-58 m^3/h). When all the heat is supplied by the fluidizing agent, the roasting time is directly related to the sample size. The product obtained is very homogeneous and of excellent organoleptic quality. RM

39

Chemically bonded stationary phases for aqueous high-performance exclusion chromatography.
Engelhardt, H.; Mathes, D.
Journal of Chromatography 142, 311-320 (1977) [32 ref. En] [Angewandte Physikalische Chemie, Univ. of Saarbrücken, Saarbrücken, Federal Republic of Germany]

The preparation of stationary phases chemically bonded to silica, for use in aqueous high-performance exclusion chromatography, is described. 10 g purified silica SI-100 (average pore diam. 10 nm) were reacted with approx. 10 ml of an alkoxysilane in 200 ml toluene or xylene at 100-120° C. Various types of stationary phase were prepared, and their properties are briefly discussed. When the gels were used for exclusion chromatography of proteins, samples were only eluted before the inert (D_2O) peak with a stationary phase ('amide') prepared from N-(3-triethoxysilylpropyl) acetamide. The small pore size of the silica used limits application in fractionation of proteins. Examples are given of separations on a 30 cm × 4 mm column of low mol. from a cola soft drink and filtered coffee using the 'amide' phase. A 'finger print' set of peaks of polymer content was obtained for the cola drink which varied from brand to brand and a caffeine peak was identifiable in the retarded region. Sugar was not retarded. Sample size was 2 µl. The coffee sample (1 µl) gave a large coloured peak eluted before the void vol. and 2 peaks identified as chlorogenic acid and caffeine. The eluent in both cases was water. DIH

40

Freeze particle process.
Lawrence, B. (Procter & Gamble Co.)
United States Patent 4 057 652 (1977) [En]

A mixture of an aromatic beverage condensate and dry beverage solubles, e.g. roast and ground coffee, is freeze-dried, after which a mixture of the resulting product and dry beverage solubles is warmed at < 10° F to melt the frozen particles to impart aroma and flavour. IFT

41

Improved agglomeration pan.
DEJ International Research Co. BV
British Patent 1 486 768 (1977) [En]

Agglomeration apparatus is described for instant coffee or other aromatic foods. This apparatus improves the wettability and appearance of the product, imparts free flowing properties, and enables particles of different origin to be combined in a product of uniform appearance so that segregation of the components in handling is avoided. GL

42

[Liquid-liquid equilibrium in a water-caffeine-trichloroethylene system.]
Escardino, A.; Monzo, M.; Costa, J. M.
Revista de Agroquimica y Tecnologia de Alimentos 17 (3) 372-382 (1977) [8 ref. Es, en] [Fac. de Ciencias, Univ. de Valencia, Valencia, Spain]

The liquid-liquid equilibrium of the ternary system water-caffeine-trichloroethylene (with or without NaCl dissolved in the aqueous phase) was investigated within the framework of a design study on the equipment for extraction of caffeine from the mother liquor of coffee decaffeination. For the conditions studied (0-60° C, 0-20% NaCl) an empirical equation was proposed which correlates the equilibrium concn. of caffeine in both phases with the temp. and NaCl concn. in the aqueous phase. AS

43

[Process for isolation of an aromatic fraction from coffee.]
Societe des Produits Nestle SA
Swiss Patent 590 616 (1977) [Fr]

A highly aromatic concentrate with the taste and aroma of coffee is obtained by organic solvent extraction of a liquid aqueous extract obtained from ground and roasted coffee by infusion or steam-stripping. The organic extractant is an azeotropic mixture with a b.p. < 50° C and consisting of a non-aromatic hydrocarbon and a halogenated hydrocarbon or ether, e.g. a mixture of 68% pentane and 32% methylene chloride. The extract can easily be concentrated as far as desired, and the conc. extract is stable during storage for > 6 months. It can be used for flavouring ices or chocolate cream fillings or converted into an instant coffee powder. W&Co

44

Brewing process.
Daswick, A. C.
United States Patent 4 061 793 (1977) [En]

Coffee or tea is brewed by pouring hot water through a water permeable filter element containing a pre-selected quantity of coffee grounds or tea leaves, a buoyant, water deflecting element being located above the coffee or tea to prevent direct contact. IFT

45

Dried coffee product.
General Foods Ltd.
British Patent 1 489 166 (1977) [En]

An aqueous coffee slurry is colloidally ground and freeze-dried. The avoidance of any evaporative step prevents the loss of flavour and aroma constituents. IFT

46

Suppression of macrophage-dependent T-lymphocyte function(s) by gallic acid, a food additive metabolite.
Archer, D. L.; Bukovic-Wess, J. A.; Smith, B. G.
Proceedings of the Society for Experimental Biology and Medicine 156 (3) 465-469 (1977) [16 ref. En] [US Dep. of Health, Education & Welfare, Public Health Service, FDA, Div. of Microbiol., Cincinnati, Ohio 45226, USA]

Results are presented suggesting that gallic acid (a metabolite of the permitted food additives propyl gallate and tannic acid) may suppress the macrophage dependent immune response in mice. It is also pointed out that considerable quantities of free gallic acid and hydrolysable tannins may be consumed directly in foods, including tea, coffee and cocoa products. AJDW

47

[Green coffee. Quality requirements.]
Czechoslovakia, Urad pro Normalizaci a Mereni
Czechoslovak Standard CSN 58 1329, 9pp. (1976) [Cs]

This standard, which supersedes the 1964 version, applies to Coffea arabica Linn. and Coffea robusta -Laurenta. It gives definitions and general quality requirements for both processed and unprocessed green coffee. HBr

48

Council Directive of 27 June 1977.
European Economic Community, Council of Ministers
Official Journal of the European Communities 20 (L 172) 20-23 (1977) [6 ref. En]

Council Directive 77/436/EEC of the 27 June 1977 relates to the approximation of the laws of the Member States relating to coffee extracts and chicory extracts. It covers coffee extracts and chicory extracts in dry, paste and liquid forms, and

lays down compositional standards, reserved descriptions and other labelling requirements and prescribed metric quantities in which these products must be sold. The Annex gives descriptions and definitions of the products to which this Directive applies. Member States must within a year amend their laws to comply with this Directive, and the amended laws must permit trade in those products which comply with the Directive within 2 yr, and prohibit trade in those which do not comply after 3 yr. VJG

49

[Green coffee in bags. Sampling.]
France, Association Francaise de Normalisation (AFNOR)
French Standard **NF V 03-300**, 6pp. (1977) [Fr] [Tour Europe, Cedex 7 92080, Paris La Defense, France]

Detailed instructions are given for sampling of batches of ⩾10 sacks of green coffee beans. A diagram is given of an approved design of hollow-probe type sampler for collection of coffee bean samples without opening the sacks. For batches of 10-100 sacks, ⩾10 sacks should be sampled; for larger batches, 10% of sacks should be sampled. Total sample size from the batch under examination should be ⩾1.5 kg coffee beans. Practical aspects of mixing, packaging, labelling, sealing, despatch and documentation of the samples are specified. AJDW

50

[Green coffee. Olfactory and visual examination.]
France, Association Francaise de Normalisation (AFNOR)
French Standard **NF V 03-306**, 2pp. (1977) [Fr] [Tour Europe, Cedex 7 92080, Paris La Defense, France]

This standard, which replaces the standard of the same number issued in 1967, specifies procedures to be used for visual and olfactory examination of green coffee. Olfactory examination covers detection of any off-odours present in the sample; visual examination covers detn. of the species of origin of the coffee beans, identification of treatments to which the coffee bean have been subjected, and detn. of the dominant colour (and its uniformity) of the sample. AJDW

51

[Green coffee. Determination of the 1000-grain weight.]
France, Association Francaise de Normalisation (AFNOR)
French Standard **NF V 03-307**, 2pp. (1977) [Fr] [Tour Europe, Cedex 7 92080, Paris La Defense, France]

This standard, which replaces the standard of the same number issued in 1967, specifies a procedure for detn. of the 1000-grain wt. of green coffee beans; an approx. 75 g sample is freed from impurities, weighed, and the beans are counted. The 1000-grain wt. may then be calculated using the equation $T = M/N \times 1000$, where T is the 1000-grain wt. (in g), M is the wt. of the sample (in g) and N is the number of beans. If the 1000-grain wt. (dry wt. basis) is required, the moisture content of the sample should be determined as specified in French Standard **NF V 03-311**, and the 1000-grain wt. determined using the equation $T = M/N \times 10 \times (100-H)$, where H is the moisture content in %. AJDW

52

[Green coffee. Granulometric analysis. Manual sieving.]
France, Association Francaise de Normalisation (AFNOR)
French Standard **NF V 03-308**, 5pp. (1977) [Fr] [Tour Europe, Cedex 7 92080, Paris La Defense, France]

The grain size distribution of a 100 g sample of the green coffee under test is determined by manual sieving on a set of 10 sieves of graded mesh size 4.00-8.00 mm diam., or on a set of 7 sieves with elongated perforations graded over the range 3.00 × 20 mm to 5.60 × 30 mm. The fractions retained on each sieve (and the fraction passing the smallest-mesh sieve used) are weighed. The results should be presented as the % by wt. retained on each sieve. 3 replicate trials should be conducted. AJDW

53

[Green coffee. Determination of foreign matter and defects.]
France, Association Francaise de Normalisation (AFNOR)
French Standard **NF V 03-309**, 2pp. (1977) [Fr] [Tour Europe, Cedex 7 92080, Paris La Defense, France]

This standard, which replaces the standard of the same number issued in 1967, specifies a procedure for detn. of the proportion of foreign matter and of defective beans in a batch of green coffee. A sample of approx. 300 g of the coffee under test is examined visually, the foreign materials and defective beans being separated and classified according to French Standard **NF V 00-101**. The % by wt. of each class of foreign matter or defective coffee beans is then calculated. AJDW

54

[Green coffee. Determination of insect-damaged beans.]
France, Association Francaise de Normalisation (AFNOR)
French Standard **NF V 03-312**, 8pp. (1977) [Fr] [Tour Europe, Cedex 7 92080, Paris La Defense, France]

A method for detn. of the proportion of insect damaged green coffee beans in a batch is described. A sample of ⩾100 coffee beans is examined for insect damage with the aid of a magnifying glass; photographs of damaged beans are given to aid recognition of insect damage. The result is expressed as % insect-damaged beans in the sample. A procedure for calculation of the confidence limits of

the 'real' incidence of insect damage on the basis of the observed incidence is described. The identification of the sp. of insect responsible for damage to coffee beans (on the basis of the types of damage observed) is briefly described, with reference to descriptions of typical damage by the 2 leading causative organisms (Hypothenemus hampei and Araecerus fasciculatus). AJDW

55

Hypress shows promise as a mash separator.
Waesberghe, -. van
Brewing & Distilling International 8 (2) 41 (1978) [En]

A description is given of the new Hypress filterpress system made by Nordon & Cie., Nancy, France. A bright wort can be obtained in 60-80 min, with 2-3% more extract than conventional filters. Spent grains are pressed to 45-50% moisture content. Applications mentioned include use in high-gravity brewing, separation of mashes produced with dehusked malt, separation of fermented slurries prior to distilling, fruit pressing, sugar extraction from grapes, dewatering of coffee waste and grape juice pressing for wine production. DIH

56

Coffee processing.
Shaw, F. B. (Continental Group Inc.)
United States Patent 4 069 349 (1978) [En]

A process for packaging solid gas-evolving products such as roasted ground coffee involves filling a plurality of pouches with the product followed by storage in a chamber containing O_2 until substantially all the evolving gas has been evacuated from the pouches, which are then hermetically sealed. IFT

57

Information sources on the coffee, cocoa, tea and spices industry.
United Nations Industrial Development Organization
UNIDO Guides to Information Sources No. 28, xii + 74pp. (1977) [En] [New York, USA]

This publication is a compilation of directories and guides to selected information sources on coffee, tea, cocoa and spices. The information is arranged under the following sections: Professional, trade and research organizations, learned societies and special information services (pp. 1-23); Directories (pp. 24-30); Sources of statistics, marketing and other economic data (pp. 31-40); Basic handbooks, textbooks and manuals (pp. 41-44); Current periodicals (pp. 45-49); Current abstracting and indexing periodicals (pp. 50-52); Proceedings, papers and reports (pp. 53-57); Specialized dictionaries and encyclopaedias (p. 58); Bibliographies (p. 59); Films and film catalogues (pp. 60-61) and Other potential sources of information (pp. 62-72). Bibliographical sources used in compiling the present guide are listed. VIG

58

[Isolation and concentration of volatile substances in roasted coffee for gas chromatographic analysis. Comparison of methods.] Die Isolierung und Konzentrierung flüchtiger Stoffe des Röstkaffees für die gas-chromatographische Analyse - ein Methodenvergleich.
Rödel, W.; Schrödter, R.; Zöll, D.; Steiniger, L.
Nahrung 21 (8) 719-724 (1977) [6 ref. De, en, ru] [Zentralinst. für Ernährung, Potsdam-Rehbrücke, German Democratic Republic]

Comparative studies were conducted on 8 methods for isolation and concn. of coffee volatiles for subsequent analysis. The methods included: headspace sampling of ground coffee or coffee infusion; isolation under vacuum, with collection in a cold-finger and dissolution of the condensate in Freon or a 2:1 ether/pentane mixture (with or without a concentration in a Vigreux column); and isolation by steam distillation followed by extraction with Freon or ether/pentane (2:1) with or without concentration on a Vigreux column. Tables of results are given, including data for the s.d., time requirements and number of peaks detected during subsequent GLC analysis of concentrates obtained by the various methods. The best overall result (s.d. 6.5%, time required 7.76 h, 30 peaks detected) was given by steam-distillation followed by extraction with ether/pentane (2:1) with concn. by distillation. Headspace methods were rapid and gave low s.d., but gave only 6-7 peaks, as compared to >30 with other techniques. The relation of peak area ratios to coffee quality is briefly considered. AJDW

59

[Coffee and health.] Kaffee und Gesundheit. [Review]
Czok, G.
Zeitschrift für Ernährungswissenschaft 16 (4) 248-255 (1977) [32 ref. De, en] [Pharmakologisches Inst., Univ. Hamburg, Martinistrasse 52, D-2000 Hamburg 20, Federal Republic of Germany]

Some physiological and pharmacological effects of coffee are reviewed. Aspects covered include the stimulatory effect of caffeine (and its paradoxical sedatory effect under certain conditions); the stimulatory effect of caffeine on brain dopamine formation; the importance of chlorogenic acid and caffeic acid in the effects of coffee on the gastrointestinal tract and the liver-bile system; and the nutritional importance of niacin (1 cup of coffee contains 1-2 mg niacin). The author also considers recent epidemiological studies and concludes that there is no correlation between coffee consumption and the incidence of hypertension, diabetes, gout, cancer, or mutagenic and teratogenic effects. DIH

60

Mass-balance of carboxy-5-hydroxytryptamides (C-5-HT) in regular and treated coffee.
Stegen, G. H. D. van der; Noomen, P. J.
Lebensmittel-Wissenschaft und -Technologie 10 (6) 321-323 (1977) [7 ref. En] [DEJ Int. Res.

Comp. BV, PO Box 2, Utrecht, Netherlands]

The carboxy-5-hydroxytryptamides (C-5-HT) contents of green and roasted coffee, spent grounds and coffee brew were determined with a modified TLC analysis for both regular and dewaxed coffee. Taking into account the dry material loss during roasting and the degree of extraction during brewing the changes in the amounts of C-5-HT during roasting and brewing can be calculated. On roasting, part of the C-5-HT is lost. As C-5-HT is susceptible to pyrolysis, it seems reasonable to suppose that the C-5-HT lost has been decomposed. A difference between regular and dewaxed coffee was observed in the amounts of C-5-HT decomposed on roasting. On brewing, most of the C-5-HT present in the roasted coffee passes into the spent grounds. Only a small quantity of C-5-HT can get into the brew by emulsification. This small quantity of emulsified C-5-HT is easily retained by a paper filter. AS

61

[Grinding of roasted coffee.]

Thaler, A.; Wilke, U.

Industrie delle Bevande 7 (1) 13-14 (1978) [It]

A brief description is given of the DMBQ coffee grinder, capable of handling from 0.7 to 6 t coffee/day. The machine is said to provide constant, uniform coffee granules, give a reproducible degree of coffee fineness, min. heating of the coffee during grinding, and a low noise level (80 dBA). HBr

62

Current shortage creates opportunity for frozen concentrated coffee.

Anon.

Quick Frozen Foods 39 (9) 36A, 36D-36F (1977) [En]

W. Heyman Process Corporation, Warwick, Rhode Island, produce frozen conc. coffee by extracting the volatile aromatics in the form of a clear liquid, which is added back to the liquid concentrate and frozen. Frozen coffee can be less expensive to produce because processing is simpler and can be better because it avoids flavour losses. Frozen conc. coffee has a chance to succeed as an alternate form for both institutional/food service and home use, in view of the high prices of the dried instant var. VJG

63

[Instant coffee.]

Asahi Chemical Industries Co. Ltd.

Japanese Patent 5 248 185 (1977) [Ja]

Roasted ground coffee beans are extracted with dimethyl ether to separate flavouring materials. After the coffee bean residue has been extracted with water, the resultant aqueous extract is concentrated, dried, and combined with the ether solution. IFT

64

[Seasoning agent.]

Asahi Chemical Industries Co. Ltd.

Japanese Patent 5 249 060 (1977) [Ja]

Process for the extraction of flavours from foods such as coffee, tea, bonito, mushrooms by contact with an aqueous dimethyl ether solution is described. The extracts are treated to recover flavour components for use as seasoning agents. IFT

65

[Commercial-scale manufacture of coffee infusions for consumption later.]

Giordano, J.

French Patent Application 2 346 981 (1977) [Fr]

A blend of various coffees is infused and the infusion bottled for drinking hot or cold at a later time. The coffee beans consist of a mixture of beans, from different sources, containing different contents of caffeic acid and mixed in the proportions of 20% with high, 60% with medium and 20% with low caffeic acid contents. The beans are roasted by hot air at 200° C. The ground blend is infused with boiling distilled water, allowed to brew for several min and stirred quickly. It is then poured into bottles which are hermetically sealed, and kept under refrigeration at 0-3° C. The use of distilled water is said to preserve the flavour of the coffee. W&Co

66

[Extraction of brown pigments from coffee grounds.]

Barbetti, P.; Chiappini, I.

Industrie delle Bevande 6 (6) 80-86 (1977) [7 ref. It] [Istituto di Chimica delle Sostanze Naturali, Univ. degli Studi, Perugia, Italy]

Samples of mixed grounds from Coffee-bar preparations of espresso coffee were freeze-dried, and extracted successively with light petroleum and acetone; 10-g portions of the extracted grounds were shaken with 50 ml 0.1, 0.5, 1.0 or 2.0N NaOH for ≤ 18 h, extracts being filtered off every 3 h. The different solutions were acidified with conc. HCl, the precipitated melanoidic acids were allowed to stand in the acid medium for a few h, and were then washed with water, dried at 50° C, weighed, dissolved in min. quantity of 2N NaOH and dialysed in a Visking Tubing apparatus for 4 days against distilled water; the residues were freeze-dried, weighed and examined. Wt., IR-, UV- and visible spectra, and pH and pK_a values of the different preparations are presented and discussed. SKK

67

[Roasted chicory root. Changes in fructose content during technological treatments.]

Blanc, M.

Lebensmittel-Wissenschaft und -Technologie 11

(1) 19-22 (1978) [17 ref. Fr, en] [Soc. d'Assistance Tech. pour Produits Nestle SA, Lab. Ind., 1350 Orbe, Switzerland]

Free and total fructose contents of chicory root and of extracts were measured as functions of roasting or extraction temp. Free fructose was measured enzymically and total fructose was also measured enzymically after hydrolysis with 0.02N HCl for 1 h. As roasting temp. increased from 145° to 180°C, free fructose contents increased and total fructose decreased. Fructose extractable by 80% ethanol reached a max. at 160°C then decreased. % free fructose of total fructose increased with temp. to approx. 25%. With increasing temp. (30-180°C) of extraction of roasted chicory root, total fructose increased to a plateau level, and free fructose content increased markedly in the range 120-180°C. % free fructose of total fructose content increased with temp. to approx. 50%. Extracts of coffee and chicory were mixed so that chicory provided 0-100% of total solids, and fructose contents were determined. Free fructose and total fructose content in the mixed extract increased linearly with % chicory TS. DIH

68

Aroma and flavour description of coffee and instant coffee. (In 'Sensory properties of foods' [see FSTA (1978) 10 8A456].) [Lecture]
Roekel, J. van; Elzer, M.
pp. 167-174 (1976) [1 ref. En] [DEJ International Res. Co. BV, Utrecht, Netherlands]

A 9-stage investigation was carried out using a modified QDA (quantitative descriptive analysis) method to determine perceptible aroma and flavour differences between roasted and instant coffee. Well-known Dutch coffees (6) and instant coffees (6) were described and the differences determined. Results are being used to try to find relationship between the measured sensory product attributes and product performance in the consumer market. AL

69

Green coffee - determination of moisture content (basic reference method).
International Organization for Standardization
International Standard **ISO 1446:1978**, 5pp. (1978) [En]

The method involves detn. of the loss in mass of green coffee (predried if the beans are too moist), previously ground without alteration of its moisture content, when brought into equilibrium with an anhydrous atmosphere at 48 ± 2°C at a pressure of 2.0 ± 0.7 kPa. [See also following abstr.]. AL

70

Green coffee - determination of moisture content (routine method).
International Organization for Standardization
International Standard **ISO 1447:1978**, 2pp. (1978) [En]

A test portion is dried to 130 ± 2°C at atm. pressure in 2 stages with an intermediate rest period to evenly redistribute moisture in the coffee bean, and loss in mass is determined by weighing. The result, after a correction has been applied, is regarded as agreeing with the basic reference method (see preceding abstr.). AL

71

[New types of food concentrates.]
Gulyaev, V. N.; Khovanskaya, S. S.; Chesnokov, P. I.
Konservnaya i Ovoshchesushil'naya Promyshlennost' No. 11, 44-46 (1977) [Ru]

A 30% increase of food concentrates is intended under the 5-yr plan. One of the demanded products is pre-cooked semolina; the gruel can be made by boiling for 10 min. The output of this product in 1976 was 3000 t; the forecast for 1980 is 40 000 t. The technological procedure and machinery are briefly described. The semolina is humidified to 15-20% moisture and heated by direct steam at 0.1-0.15 MPa in special batch-type operating units. Gelatinization of the starch depends on the time and degree of heating, and on the amount of added water. The product is pre-dried, and then finally dried in a roll-type drier to 8-9% moisture. The total output of food concentrates in 1975 was 405 100 t; the forecast for 1980 is 525 500 t, i.e. 30% more. The highest increases are envisaged for table-ready foods and baby food, dried breakfast meal, and dried coffee. STI

72

[Fractionation by gel filtration of brown pigments isolated from infusions of different types of coffee.]
Barbetti, P.; Chiappini, I.
Industrie delle Bevande 6 (6) 97-99 (1977) [15 ref. It] [Istituto di Chimica delle Sostanze Naturali, Univ. di Perugia, Perugia, Italy]

Brown pigments isolated from infusions of Santos, Giava, and Costa d'Avorio roasted coffees by the method of Barbetti [Annali di Chimica (1976) 66, 361] were fractionated by filtration on Biogel P60/Biogel A 1.5/Biogel A 15 (Bio Rad) columns. Absorption spectra at 490 and 360 nm and results of ammonium ceric sulphate titration of the fractions are graphically presented (or tabulated) and discussed. SKK

73

[Enzymic activity of polyphenoloxidase, peroxidase and catalase in Coffea arabica L. beans and relationship to beverage quality.]
Oliveira, J. C. de; Silva, D. M.; Teixeira, A. A.; Amorim, H. V.
Turrialba 27 (1) 75-82 (1977) [27 ref. Pt, en] [Dep. di Fitotecnia, Fac. de Med. Vet. & Agron. 'Prof. Antonio Rvete' Jaboticabal, Sao Paulo, Brazil]

The activity of polyphenoloxidase (PFO), peroxidase and catalase in unprocessed coffee bean

samples was correlated with expert evaluation of the beverage quality. PFO activity decreased in 35 samples in the order of quality ranking; however, catalase and peroxidase did not show such a definite relationship to quality. Nonetheless, the activity of samples classified as 'Rio' showed an average value considerably lower than that of the others. [From En summ.] JRR

74

Drip coffee makers can lead good coffee back into homes.
Lee, S.
Tea and Coffee Trade Journal 150 (2) 6, 10 (1978) [En]

The author discusses a patented method for producing soluble coffee concentrates [see FSTA (1972) 4 10H1594] which achieves more efficient extraction of coffee solubles by using wafer-thin flattened coffee flakes for instant coffee production or domestic consumption. RM

75

Recirculation of water combined with land treatment as a solution to the problem of river pollution from coffee factories.
Kenya, Director of Water Department
Kenya Coffee 42 (500) 367-373 (1977) [6 ref. En]

Kenya's water pollution control is discussed, including its application to coffee processors, past and future legislation and instructions for coffee factories operating recirculation systems during pulping, hulling and pre-grading, fermentation, final washing and grading, and final soaking. The water allocation for new and existing factories is 5000 gal/t coffee processed. Relevant sections of the water act and results of visits to coffee factories are appended. RM

76

[Filter material.] Filtermaterial.
Voronecky, J. (Papierfabrik Schoeller & Hoesch GmbH)
German Federal Republic Patent Application 2 636 486 (1978) [De]

Filter material consisting of vegetable and/or plastics staple fibres, especially paper or fleeces, for external media with fibre-swelling action, is plastics coated and/or (vacuum-)metallized on one or both sides. The material may be plastics coated on one side and used for filtering water or foods, e.g. for packaging tea or instant coffee in bags with filtration action. The material does not absorb any ingredients that affect taste or flavour. W&Co

77

[Method for removing caffeine from coffee.]
Verfahren zur Entcoffeinierung von Kaffee.
Zosel, K. (Studiengesellschaft Kohle mbH)
German Federal Republic Patent Application 2 732 103 (1978) [De]

A mixture of coffee, water and a surface-active adsorption medium is subjected to CO_2 at 40-100°C and 120-250 atm. In an example, 1 kg raw coffee with a 9% water content was ground and mixed with 1 kg active C wetted with 0.5 kg water. After subjection to CO_2 in an autoclave for 2 h and separation of the coffee from the active C, the coffee had a water content of 41% and a caffeine content of 0.03%. W&Co

78

[Method for separating caffeine from supercritical solutions.] Verfahren zur Abtrennung von Caffein aus überkritischen Lösungen.
Hubert, P.; Vitzthum, O. (HAG AG)
German Federal Republic Patent Application 2 637 197 (1978) [De]

A process for extracting caffeine from natural substances, using CO_2 in the supercritical state, involves fixing the extracted caffeine selectively on an ion exchanger, which is regenerated using an aqueous regenerating agent. The process is used especially to prepare decaffeinated coffee. Compared with earlier processes [German Federal Patent Applications 2 005 293 and 2 212 281] this method has a more selective adsorbing agent than active-C and is more economical, as reactivation of active-C used previously is difficult and costly. W&Co

79

[Research on chemical structure and origin of the brown caramel colours, especially from molasses.] [Thesis]
Zenouz, A. A.
Agricultura, Belgium 25 (3) 356-467 (1977) [many ref. Fr, en] [Katholieke Univ. Leuven, Leuven, Belgium]

This thesis contains an extensive literature review, and reports an attempted isolation by selective adsorption, and successful isolation and purification by organic solvents of all the colouring compounds from molasses. A creamy white powder was obtained which returned to the original black colour on solvation with organic solvents; all the colouring compounds belonged to the same chemical family, produced by polymerization of a small molecule F_{sm} (slow moving fraction, mol. wt. < 150). Comparative study of caramel colours from pure carbohydrates and carbohydrate-rich foods (coffee, chicory, bread crust) showed that all were produced by polymerization of small molecules (F_{sm}) produced by heat degradation of sugars. F_{sm} could be obtained in a pure state only as an acetyl derivative. RM

80

Short-term toxicity of furfuryl mercaptan in rats.
Phillips, J. C.; Gaunt, I. F.; Hardy, J.; Kiss, I. S.; Gangolli, S. D.; Butterworth, K. R.
Food and Cosmetics Toxicology 15 (5) 383-387 (1977) [7 ref. En] [British Ind. Biol. Res. Ass., Woodmansterne Rd., Carshalton, Surrey SM5 4DS, UK]

Furfuryl mercaptan (2-furylmethanethiol) is a volatile liquid used as a constituent of flavourings, particularly for use in chocolate, fruit, nuts and coffee. This short-term toxicity study was carried out as part of the BIBRA programme for the safety evaluation of flavouring agents. Treatment of rats with furfuryl mercaptan at doses ⩽30 mg/kg/day showed that the no-untoward-effect level is at least 3 mg/kg/day, although in view of the nature of the findings at 30 mg/kg/day, the actual level seems likely to be higher. This study therefore suggests an acceptable daily intake for man of 0.03 mg/kg/day or 2.1 mg/day for a 70 kg adult. VJG

81

[Can closure.] Verpackungsdosenverschluss.
Banaschik, P.
German Federal Republic Patent Application 2 637 578 (1978) [De]

The closure, intended particularly for cans containing flowing material such as coffee, comprises a part screwing onto a threaded portion of the can and with an opening in its top through which, when tilted, some of the contents flow into an intermediate chamber formed between its top and the removable top cover. When the can is returned to the upright position a set quantity of the contents remain behind in this chamber for dispensing after removal of the cover. This avoids the need for a separate measuring device. W&Co

82

[Determination of tin in soft drinks by flameless atomic absorption spectroscopy using a method with zirconium hydroxide.]
Amakawa, E.; Ohnishi, K.; Taguchi, N.; Seki, H.
Japan Analyst [Bunseki Kagaku] **27** (2) 81-84 (1978) [18 ref. Ja, en] [Tokyo Metropolitan Res. Lab. of Public Health, 3-16-25 Shibazaki-cho, Tachikawa-shi, Tokyo, Japan]

Sn was determined by flameless AAS in 2-5 g samples of soft drinks by wet ashing, coprecipitation with $Zr(OH)_4$ at pH 5-9 and the standard addition method. As^{2+} Na, K, Ca and Mg did not coprecipitate at 10 000-fold concn. of Sn; Al, Fe, Zn, Cu, Pb, Ni, Cd and As^{3+} at 100-fold concn. coprecipitated with $Zr(OH)_4$ but did not interfere with Sn detn.; PO_4 at ⩾500-fold concn. reduced Sn recovery. Application of this method to Sn detn. in canned tomato, apple and orange juices gave recoveries of 100-106% and coeff. of variation of 2.3%. The results agreed well with polarographic Sn detn. in 10 samples of canned fruit and coffee drinks. [From En summ.] RM

83

Method of making an extractable coffee substitute.
Scarsella, E. L.; Spotholz, C. H. (General Foods Corp.)
United States Patent 4 072 765 (1978) [En]

An extractable beverage composition comprises a mixture of comminuted raw wheat, a coffee mixture containing ⩾60% of a high grade Arabica coffee and ⩽6% of a hydrolysed starch material. IFT

84

The dry facts on soluble coffee.
Lee, S.
Tea and Coffee Trade Journal 150 (3) 6, 12 (1978) [En]

Difficulties and pitfalls in production of soluble coffee are briefly reviewed. Some practical hints are given on the extraction stage. RM

85

[Method for decaffeinating raw coffee.] Verfahren zur Entkoffeinnierung von Rohkaffee.
Kaffee-Veredelungs-Werk Koffeinfrei Kaffee GmbH
German Federal Republic Patent Application 2 634 535 (1978) [De]

Process for decaffeinating raw coffee involves extracting with moist, circulating N_2O in the supercritical state; separating the carrier gas from the caffeine, and recirculating it to the process; and optionally recovering the caffeine. The solubility of caffeine in moist, supercritical N_2O is considerably higher than in the CO_2 previously used. The caffeine can be recovered from the supercritical gas with an ion exchange resin, which is more economical and less energy-consuming than processes based on supercritical CO_2. The ion exchanger may be mounted in the upper part of the caffeine extraction vessel, separated from the raw moist coffee by a perforated plate, so that a separate container for the ion exchanger is not necessary. The caffeine is recovered from the ion exchanger by suspending the laden exchanger in water and lowering the pH to approx. 4, using an organic halogen-free acid, such (e.g. acetic or formic). W&Co

86

[Method for removing irritant substances from coffee.] Verfahren zur Entfernung von Reizstoffen aus Kaffee.
Roselius, L.; Kurzhals, H.-A.; Klaus, F. (HAG AG)
German Federal Republic Patent Application 2 639 066 (1978) [De]

Coffee with a reduced content of irritants is prepared by removing coffee wax from unroasted coffee, while maintaining the initial caffeine content, by treating coffee beans with a physiologically acceptable solvent. 5-carboxylic acid hydroxytryptamide is removed with the coffee wax. The treated beans contain no residual solvent. The appearance and taste of the final roast coffee are indistinguishable from those of the best mild coffees. W&Co

87

Profiles of sulfur containing compounds obtained from Arabica and Robusta coffees by capillary column gas chromatography.
Nurok, D.; Anderson, J. W.; Zlatkis, A.
Chromatographia 11 (4) 188-192 (1978) [3 ref. En] [Chem. Dep., Univ. of Houston, Texas 77004, USA]

The profiles of S-containing compounds in Arabica and Robusta coffees were determined by concentrating the volatile from dry ground roasted coffee headspace, pressed coffee oil, or brewed coffee headspace onto an adsorbent (Tenax), which was then thermally desorbed into a capillary column. The volatiles were then determined by GLC with a flame photometric detector. Significant quantitative differences were found between the profiles of Arabica and Robusta coffees in all 3 sample types, with a few components up to 20 times more conc. in Robusta. These differences may be used to detect as little as 1% of Robusta in a coffee blend. [Detailed description of the apparatus is given in Zlatkis, Chromatographia (1976) 6 (2) 67-70.] [From En summ.] RM

88

[Device for brewing tea.] Einrichtung zum Aufgiessen von Tee.
Hoffmann, E.
German Federal Republic Patent Application 2 644 667 (1978) [De]

A multi-purpose bag which may be used for preparing tea and other beverages is designed as a stacking filter beaker which after filling with tea leaves, ground coffee etc. may be sealed along its opening edge. The filter beaker may be made of paper or perforated metal foil and provided with contact adhesive around its opening edge for easy sealing. When made of paper the filter beaker may have a metal foil ring set round the opening edge for reinforcement, allowing a thin filter paper to be used as well as an easy closing achieved by deforming the metal ring. The ring is also preferably provided with a contact adhesive. The beakers may be stacked for storage and filled as required. This allows the tea leaves etc. to be stored in air-tight containers. W&Co

89

Process for protecting organic materials using a bacteriostatic coffee extract.
Hirsbrunner, P.; Beyeler, T.; Shepherd, D. (Societe d'Assistance Technique pour Produits Nestle SA)
United States Patent 4 075 329 (1978) [En]

A process is described for the solvent extraction of a bacteriostatic agent from unroasted coffee beans. IFT

90

Coffee.
United States of America, General Services Administration, Federal Supply Service
Federal Specification HHH-C-571E, 19pp. (1977) [En] [Washington, DC 20406, USA]

This specification supersedes HHH-C-571D (1971) and gives requirements for 3 types of coffee: I whole green beans, either Brazils, Colombian Excelso, milds (other than Colombian Excelso), and Robustas; II - whole roasted beans; III - ground roasted beans. Quality assurance provisions and preparation for delivery are also covered. AL

91

Lightness and darkness: the reflectance of dried porous foods. [Lecture]
Schwartzberg, H. G.
AIChE Symposium Series 73 (163) 157-163 (1977) [13 ref. En] [Dep. of Food & Agric. Eng., Univ. of Massachusetts, Amherst, Massachusetts, USA]

A relationship is derived for correlating the diffuse optical reflectance of dried porous food in terms of the refractive index, light attenuation coeff., and pore wall thickness of the dry solid. It provides a quantitative basis for maniputaling product characteristics so as to obtain a desired product appearance in terms of lightness or darkness. Its applicability is illustrated for freeze-dried and spray-dried coffee. The relationship can be extended to a variety of two-phase systems. [See FSTA (1978) 10 11E315.] AS

92

Low-cost methods for unitizing your exports.
International Cargo Handling Coordination Association
International Trade Forum 14 (1) 8-11, 18-22 (1978) [En] [Abford House, 15 Wilton Road, London SW1V 1LX, UK]

The advantages and economic benefits of pre-slinging and strapping of cargo are discussed. Pre-slinging - placing a sling round a cargo unit at the point of origin - is suitable for a number of types of cargo including bagged products such as coffee. Handling rate at ports is increased, as compared to handling separate bags, and labour required is reduced. Different types of sling are illustrated and discussed. DIH

93

[Influence of roasting on monosaccharide contents in arabica, robusta and icatu hybrid coffees.]
Sabbagh, N. K.; Yokomizo, Y.; Faria, J. B.
Coletanea do Instituto de Tecnologia de Alimentos 8 (1) 111-130 (1977) [14 ref. Pt, en]

800 g batches of the coffees under test were roasted to various degrees (wt. losses of 10-18% during roasting). The pH, acidity and fat, soluble carbohydrate, reducing sugar, total sugar, moisture and ash contents of the green and roasted coffees were determined; individual sugars were identified and determined by GLC. Tables of results are given. In general, pH and fat content increased and the acidity and the soluble carbohydrate, total

sugar, reducing sugar and moisture contents decreased with increasing intensity of roasting. Ash content was little influenced by intensity of roasting. Sucrose predominated in green (i) arabica and (iii) icatu hybrid coffees; glucose and fructose predominated in green (ii) robusta coffees. Reducing sugar concn. in green (iii) hybrids was intermediate between values for (i) and (ii). An unidentified sugar was present in (iii), but not in (i) or (ii). There was a tendency for concn. of sucrose, fructose and glucose to decrease and for that of galactose to increase with increasing intensity of roasting. Arabinose and ribose were formed in highly-roasted coffee. AJDW

94

[Determination of monosaccharides in Brazilian instant coffees.]

Sabbagh, N. K.; Faria, J. B.; Yokomizo, Y.

Coletanea do Instituto de Tecnologia de Alimentos **8** (1) 55-73 (1977) [13 ref. Pt, en]

10 samples of Brazilian instant coffee (differing in degree of roasting, extraction method, proportion of waste material, etc.) were studied. pH, acidity and moisture, ash and caffeine concn. were determined, and the sugars present were identified and determined by GLC. Tables of results are given. Ranges of values were: moisture 2.62-3.60%; pH 4.37-5.09; acidity 51.6-85.5 ml 1N NaOH/100 g; ash 8.48-10.84%; and caffeine 1.97-2.79%. Ranges of values for individual sugars (% wet wt.) were: arabinose 0.04-0.13; ribose 0.08-0.20; fructose 0.02-0.13; galactose 0.31-0.80; mannose 0.17-0.25; α-glucose 0.08-0.18; β-glucose 0.06-0.13; and sucrose 0.02-0.30. On the basis of the results, it is concluded that: the extraction yield of the instant coffees studied was 37.3-48.0; that sugar contents decrease with increasing proportion of waste in the raw materials; and that contents of arabinose, ribose and α- and β-glucose decrease with increasing degree of roasting of the raw material. AJDW

95

[Mineral composition of instant coffee substitutes for natural soluble coffee.]

Nakhmedov, F. G.; Lomachinskii, V. A.; Tserevitinov, O. B.

Voprosy Pitaniya No. 3, 80-82 (1978) [9 ref. Ru]

3 types of instant coffee substitutes, made from cereals and chicory by roasting, extraction and drying of the extract, were analysed by AAS for contents of minerals. The 3 types were Novost' (40% barley, 20% rye, 40% dried chicory), Bodrost' (40% barley, 15% rye, 35% chicory and 10% grade II natural coffee) and Chicory (100% chicory). Contents (mg/100 g DM) of K, Na, Ca, Mg, Fe, Mn and Zn in Novost' var. were 2043.4, 315.2, 165.8, 107.4, 19.22, 1.14, 1.98 and 2.33, resp.; corresponding figures for Bodrost' var. were 2164.5, 319.5, 174.8, 125.8, 14.74, 1.26, 1.88 and 2.52; and corresponding concn. for Chicory var. were 716.9, 427.1, 303.5, 101.9, 9.09, 0.65, 1.31 and 1.84. The degree to which daily requirements of these minerals are satisfied by 1 portion of the coffee beverage (5 g powder in 150 ml water) are tabulated. HBr

96

[Green coffee beans. Determination of moisture content: Reference method.]

Yugoslavia, Jugoslovenski Zavod za Standardizaciju

Yugoslavian Standard **JUS E.B8.026**, 4pp. (1976) [Sh]

The loss of wt. in previously ground beans is determined under conditions such that the moisture in the sample is in equilibrium with the environment at zero water vapour pressure, at a temp. of 48 ± 2°C and a pressure of 20 ± 7 mbar (10-20 mm Hg). If the sample is excessively moist, it must be dried before grinding. The standard is based on **ISO/R 1446** (1970). HBr

97

[Green coffee beans. Determination of moisture content: Routine method.]

Yugoslavia, Jugoslovenski Zavod za Standardizaciju

Yugoslavian Standard **JUS E.B8.027**, 3pp. (1976) [Sh]

The sample is dried at 130 ± 2°C at normal atmospheric pressure, with mixing to effect homogenization, i.e. to effect even distribution of the moisture in the sample. The result is taken as conforming with the result obtained by the reference method (see preceding abstr.). The standard is based on **ISO/R 1447** (1970). HBr

98

Enzymic browning in foods, its chemistry and control.

Walker, J. R. L.

Food Technology in New Zealand **12** (3) 19, 21-22, 24-25 (1977) [21 ref. En] [Botany Dep., Univ. of Canterbury, Christchurch, New Zealand]

Enzymic browning is a result of the activity of an enzyme system, O_2: o-diphenol oxidoreductase (o-DPO) (EC No. 1.10.3.1). The major chemical reactions involved are: (i) hydroxylation of a phenol, e.g. tyrosine, to an o-dihydroxy-compound, e.g. 3,4-dihydroxy-phenylalanine; (ii) oxidation to the corresponding o-quinone and (iii) oxidative polymerization to brown-black pigments. Many, but not all, o-DPO are able to perform (i), so o-DPO is not synonymous with 'tyrosinase'. Step (ii) is reversible, so that addition of reducing agents will arrest the browning reaction until they are completely consumed. Thiols may also be used to prevent browning; they react with o-quinones when present in a molar ratio > 1.5:1, producing a colourless thio-ester which will not oxidize to brown pigments. Cu acts as a prosthetic group in DPO, and chelation with CO, sodium diethyldithiocarbamate, etc., will inhibit DPO activity. Another inhibitor of DPO is reported to be 'expansin', a secretion of Penicillium expansum; its

action is unknown. In practice, DPO are often heat-denatured, but some systems are relatively heat stable, so other measures must be employed. Cinnamic acid has been used to inhibit browning in apple juice [see FSTA (1976) 8 11H1968], and other enzymic, methods have been proposed. In some cases, e.g. tea fermentation, coffee and cocoa production, enzymic browning is desirable for proper quality development. JRR

99

The flexible vacuum coffee bag.
Accorsi, R.
Tea and Coffee Trade Journal 150 (4) 36-37 (1978) [En]

The Fresco System vacuum coffee bag is made from a 3-layer laminate (polypropylene, foil, polyethylene) and has excellent gas- and vacuum tightness, mechanical strength and stiffness, printability and heat sealability. The % O_2 inside the bag is <1 even after 6 months. A special 1-way opening valve allows escape of roasting gases and hence direct filling from the roaster, without intermediate degassing. The same Fresco machine covers a size range from <2 oz to 6 lb bags. RM

100

[A Swedish-Swiss packaging development.] Eine schwedisch-schweizerische Verpackungsentwicklung.
Anon.
Tara 30 (345) 265-267 (1978) [De]

An illustrated description is given of the Soft Can pack, a polyethylene/Al/polyester laminate inner bag in a stable carton parallelepiped outer, with a polystyrene lid. Originally produced by AB Platmanufaktur PLM (Malmö) and developed in collaboration with SIG Schweizerische Industrie-Gesellschaft, the Soft Can may be used for packaging sensitive products, such as ground coffee. A description is also given of the SIG packaging line. HBr

101

Coffee decaffeination.
Meyer, F. W.; Pitchon, E.; Earle, E. L., Jr. (General Foods Corp.)
United States Patent 4 081 561 (1978) [En]

Method for producing a partially decaffeinated, soluble coffee product involves extraction of low-grade and high-grade roasted ground coffee fractions. IFT

102

Decaffeination of green coffee.
Hudak, S. F.; Mahlmann, J. P. (General Foods Corp.)
United States Patent 4 081 563 (1978) [En]

Method for decaffeinating green coffee comprises drying an aqueous extract of green coffee beans and extracting the dried solids with an organic water-miscible caffeine solvent, e.g. ethanol. The decaffeinated solids are rehydrated and either reincorporated into the water-extracted green coffee, which is then roasted and ground, or used as a caffeine deficient extraction medium for decaffeinating green coffee. SP

103

Blended ground coffee.
Gregg, R. (Procter & Gamble Co.)
United States Patent 4 081 569 (1978) [En]

Process comprises mixing a conventional ground roast coffee component with a second coffee component containing Robustas which is obtained by comminuting and roasting green coffee beans. IFT

104

The Mediterranean way of preparing coffee.
Lee, S.
Tea and Coffee Trade Journal 150 (4) 6, 10 (1978) [En]

The preparation of 'Turkish' coffee from finely powdered coffee is described. Since the quality of the coffee is judged by the amount of foam produced during brewing, finely ground coffee should be packaged in small packages in inert gas at atmospheric pressure rather than under vacuum. RM

105

The Atlas Conrad freeze-drying system.
Rasmussen, K.
Tea and Coffee Trade Journal 150 (4) 32-33 (1978) [En] [A/S Atlas, Copenhagen, Denmark]

The construction and operation of the Atlas equipment for freezing and granulation of coffee extract are described with the aid of diagrams. Regulating the thickness of the frozen slab of coffee extract from the rotating drum allows production of even-sized granules in a single granulation machine, with very low power consumption. The fully automated granulation and tray filling operations take place at -40° C and at a pre-set pressure (e.g. 0.6 Torr), adjustable to allow variation in colour of the product. Flat trays containing a shallow layer of granulate are conveyed singly into the tunnel via an air lock at a constant rate, permitting a constant load on the refrigeration, vacuum and heating system. No abrasion of fines takes place, and dust loss is guaranteed to be $<0.1\%$. RM

106

Re-examining the fate of leftover coffee.
Lee, S.
Tea and Coffee Trade Journal 150 (6) 6, 10 (1978) [En]

A use for leftover brewed coffee is suggested, viz. blending the cold brew with the water required for the next brew, and reducing the quantity of ground roasted coffee, correspondingly. Up to 25-30% of the leftover brew may be used within 24 h, thus allowing substantial economies without loss in quality. RM

107

Detentions compound coffee problem.
Hopkins, H.
FDA Consumer 11 (7) 20-25 (1977) [En]

There has been a substantial increase in the amount of coffee beans detained at US ports by FDA inspectors. One factor in this is an effort by some producers to cash in on high prices, caused by war and economic unrest in African producing countries and poor weather conditions in some Central and South American countries. Total poundage of green coffee detained by import inspectors increased from about 20 million in 1972 to 83.5 million pounds in 1975, then declined somewhat to about 71 million in 1976. Reasons for detentions in 1976 were: live and dead insects among beans, 52%; insect damaged beans, 3%; bird excreta and rodent excreta and urine, 12%; moulds, 26%; oil and water stains, 5%; and contamination by foreign substances, 2%. Highest detention rates have involved coffee from African and Asian countries. % detained from imports from African countries were: 1974, 1.2%; 1975, 5.7%; and 1976, 5.4%; and from the India, Indonesian and New Guinea group were: 1974, 6.4%; 1975, 9.5%; and 1976, 12.2%. VJG

108

[Phenols in roasted coffees of different varieties. I.]
Flüchtige Phenole in Röstkaffees verschiedener Sorten. I.
Tressl, R.; Grünewald, K. G.; Köppler, H.; Silwar, R.
Zeitschrift für Lebensmittel-Untersuchung und - Forschung 167 (2) 108-110 (1978) [5 ref. De, en] [Lehrstuhl für Chem.-Tech. Analyse, Tech. Univ. Berlin, Inst. für Gärungsgewerbe & Biotech., Seestrasse 13, D-1000 Berlin (West) 65]

30 phenols were isolated from roasted coffee by distillation-extraction, separated from other constituents by adsorption-chromatography, and characterized by means of GLC-MS. Robusta coffee contained the largest amount of phenols, followed by arabusta (Ivory Coast) and arabica. Quantity and type of phenols depend on var. as well as on the roasting conditions. AS

109

Relationship between acid value of extracted fatty matter and age of green coffee beans.
Wajda, P.; Walczyk, D.
Journal of the Science of Food and Agriculture 29 (4) 377-380 (1978) [4 ref. En] [Polcargo, Int. Superintendence & Testing Services, Cent. Chem. Lab., 81-336 Gdynia, Ul. Indyjska 13, Poland]

Correlation was attempted between changes in the acidity of the fatty matter of green coffee beans during storage under tropical conditions, and age of coffee beans, and the panel assessment of colour and cup-test of the roasted coffee. On the basis of systematic studies a relationship between acid value and coffee age was found. Coffee beans stored under tropical conditions for ⩽4 yr showed relatively large increases in acid value, which correlated with average responses of the tasters. In comparison, samples stored under European conditions showed lesser increases in acid value over 5 yr, and little change in taste assessment. Detn. of acid value is considered to be a useful objective quality control test. AS

110

[Determination of diterpene glycosides in coffee.]
Bestimmung von Diterpen-Glykosiden im Bohnenkaffee.
Maier, H. G.; Wewetzer, H.
Zeitschrift für Lebensmittel-Untersuchung und - Forschung 167 (2) 105-107 (1978) [3 ref. De, en] [Inst. für Lebensmittelchem., Tech. Univ. Braunschweig, Fasanenstrasse 3, D-3300 Braunschweig, Federal Republic of Germany]

The detn. of 3'O-β-D-glucopyranosyl-2'-O-isovaleroyl-2β-(2-desoxy-atractyligenin)-β-D-glucopyranoside (KA I) and 2-O-β-D-glucopyranosyl-atractyligenin (KA II) in coffee was carried out by liquid/liquid-partition, column chromatography, TLC, and photometry. In robusta and arabusta green coffees KA I levels were below the limit of detection, in arabica green coffees between 170 and 460 mg/kg; KA II was present in robusta green coffees between 10 and 45 mg/kg, in arabusta green coffee at about 60 mg/kg, and in arabica green coffees between 290 and 340 mg/kg. During roasting these values are reduced, but there was no further reduction during commercial extraction. AS

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